

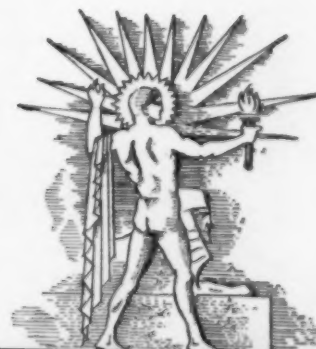
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FALL BOOK NUMBER

# SCIENCE NEWS LETTER

THE WEEKLY SUMMARY OF CURRENT SCIENCE.



OCTOBER 21, 1933

Could You Do This At 18 Months?

See Page 262

A

SCIENCE SERVICE PUBLICATION

## SCIENCE NEWS LETTER

VOL XXIV

No. 654

The Weekly  Current  
Summary of Science

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## SCIENCE SERVICE

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## DO YOU KNOW?

A study of goiter in Japan shows that only one Japanese in a million has this disease.

About two-thirds of the States have to buy the major part of their lumber supply from outside their own borders.

A stone temple with walls decorated in gaily painted arabesques has been dug out of the earth near Lima, Peru.

Suet is a good base for the feeding of birds during the winter, since it furnishes the heat producing substances they need.

Excavations in Athens along the Academic Road have led to the discovery of a site believed to be that of Plato's famous Academy.

Naples has a museum devoted to exhibits of ancient technology, such as Roman oil presses, scales, and flour kneading devices.

A new rubber compound that will withstand temperatures as low as 60 degrees below zero has been developed in rubber laboratories in Ohio.

The Babylonians did not exactly have modern bank checks, but they wrote "orders to pay" on the small clay tablets that they used instead of paper.

A horse blanket made of bronze plates, used as horse armor in the third century, was found recently at the ruins of Dura on the Euphrates River.

The stone known to ancient Greece and Rome and Israel as the sapphire was what we call today lapis lazuli.

The amount of sugar consumed by the average person in the United States increased during the past century from 10 pounds to 105 pounds a year.

An artificial mountain of soil brought from all over the world will be raised at the hundredth anniversary of the State of Victoria, Australia, next year.

In a series of tests to find out what color is scientifically best for traffic markings on pavement, it was found that white markers are most efficient.

A carved scarab commemorating the marriage of Queen Tiye to Pharaoh Amenhotep III was discovered recently at the site of Beth Shemesh, Palestine.

Musk rats originally kept in a fenced-in farm in Shasta County, California, have spread up and down the Sacramento River, threatening the entire levee system.

Glacier milk, sometimes called glacier flour, is neither a drink nor a food; it is finely ground rock particles which give some glacial waters a milky appearance.

Correction—Third paragraph of "Do You Know?" in last week's SCIENCE NEWS LETTER (Oct. 14) should read: There are about five to six million red blood cells per cubic centimeter in the body of a grown man.

## WITH THE SCIENCES THIS WEEK

## ARCHAEOLOGY

What does a cock-horse look like? p. 262.

## ASTRONOMY

What is the greatest riddle of astronomy? p. 262.

What was the cause of Europe's recent meteor shower? p. 259. *Meteors—Charles P. Olivier—Williams and Wilkins, 1925, \$6.*

## AVIATION

What has been the difficulty with wearing parachutes? p. 259.

## ENTOMOLOGY

What insect is mistaken for a honeybee? p. 260. *Fieldbook of Insects—Frank E. Lutz—Putnam, 1918, \$2.50.*

## MEDICINE

How can radium be applied directly to internal organs? p. 259. *The Science of Radiology—Ed. by Otto Glasser—Thomas, 1933, \$4.50.*

## PALEOBOTANY

What could account for a tree only partly carbonized? p. 261.

## PHYSICS

How is the charge of the positron determined? p. 262.

What materials screen out visible light but admits ultraviolet? p. 261.

## PSYCHOLOGY

Can all babies swim without instruction? p. 262.

## PUBLIC HEALTH

How many American children are hungry? p. 260.

*These curiosity-arousing questions show at a glance the wide field of scientific activity from which this week's news comes. Book references in italic type are not sources of information for the article, but are references for further reading. Books cited can be supplied by Book Dept., Science News Letter, at publishers' prices, prepaid in the United States.*

## ASTRONOMY

# Unpredicted Meteor Shower Surprises Astronomers

Brief, Brilliant Display, Destined to Fame, Apparently Caused by Minor Planet Now Visiting Neighborhood of Sun

A GREAT unpredicted meteor shower, seen from Europe on Monday night, Oct. 9, has been identified with a minor periodic comet that otherwise made no stir in the astronomical world.

European astronomers saw the display of "shooting stars" and immediately cabled the news to Harvard Observatory which is this continent's central station for astronomical telegrams.

The shower will probably go down in history as one of the major meteoric displays of history. A hundred "shooting stars" a minute were reported from the Soviet observatory at Poudkovo, near Leningrad. This indicates that the display surpassed in brilliance the showers of 1833 and 1866. The shower was short-lived, lasting only a few hours, and its maximum came at 20 hours Greenwich time or 3 p. m. Eastern Standard Time when it was still bright daylight in the United States.

Dr. W. J. Fisher, Harvard astronomer, checking possible causes of the shower, found that the Giacobini-Zinner comet, a periodic visitor to the sun's neighborhood, was in such a position as to be associated with it. Meteors have been seen but sparsely only a few times in the past in association with this comet. The theory is that the meteors are stray fragments of the comet that plunge into the upper atmosphere of the earth and burn with brilliance that gives the popular name "shooting star."

## 370,000 Miles From Orbit

The earth was rushing through space only 370,000 miles away from the orbit of the Giacobini-Zinner comet on Oct. 9. Prof. George Van Biesbroeck of the Yerkes Observatory computed. The comet itself passed this part of its orbit on July 21. Although the earth came within only  $1\frac{1}{2}$  times the distance of the moon from the orbit, the comet itself is now hardly observable, being distant from the earth  $1\frac{1}{2}$  times the average distance from the earth to the sun.

The Giacobini-Zinner comet was seen

this year in April from Hamburg Observatory on its regular visit to this part of the solar system. It was very faint; within sight of only large telescopes. It was discovered in 1900, rediscovered in 1913 and observed again in 1926.

*Science News Letter, October 21, 1933*

## AVIATION

## New Parachute Device Adopted by Navy

THERE IS NOW no excuse for a naval aviator to fly without a parachute. Heretofore, some flying personnel were exempted from wearing parachutes when they prevented efficient performance of duties in cramped quarters. A quick-attachable type of parachute has been developed, only the harness of which is worn except in emergency. The packed parachute is stowed close at hand and an almost instantaneous connection to the harness can be made.

*Science News Letter, October 21, 1933*

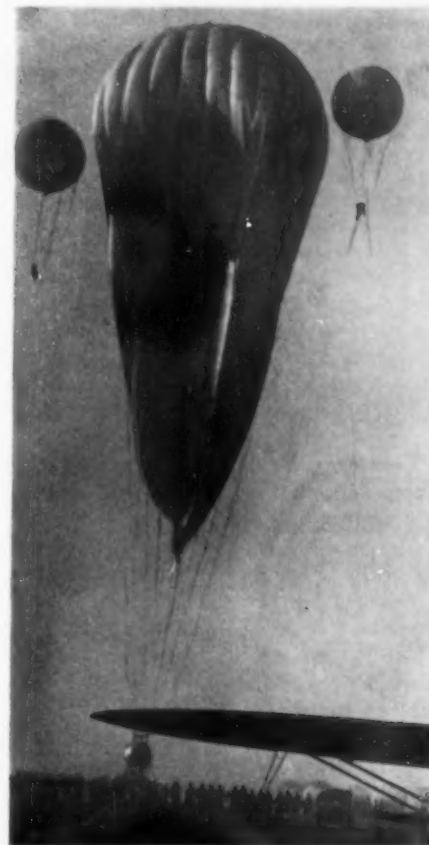
## MEDICINE

# Radium "Seeds" Planted to Fight Cancer at Close Quarters

MOST important of the new advances in surgery is the application of radium directly to the internal organs for the treatment of cancer, in the opinion of Dr. H. Beckwith Whitehouse of Birmingham, England.

This English surgeon, a member of the Radium Commission of Great Britain, addressed the American College of Surgeons in Chicago recently on pre-cancerous conditions of the breast. The campaign against cancer will be most effective when directed against such pre-cancerous conditions, he said.

Dr. Whitehouse described what he called the surgery of access of radium



## READY TO RISE

Silhouetted against Moscow's gray Sept. 30 dawn, the big gas bag USSR is shown, in one of the first pictures of its record flight to reach this country. It is being given a final inspection by men suspended from little balloons. (SNL, Oct. 14, '33, p. 245)

as follows: A rubber tube containing radium needles which are like little beads is stitched directly to the cancerous organ within the body. The tube is about the size and shape of a small quill. Its length varies according to how deep into the body it must penetrate to reach the cancer. After a week the stitches will be absorbed by the body tissues and the tube may be pulled out and its hole allowed to heal.

"We shall hear a good deal more about radium treatment," Dr. Whitehouse predicted, but he warned that this potent substance, like X-rays, is dangerous when used by the unskilled.

*Science News Letter, October 21, 1933*



## PUBLIC HEALTH

# Six Million Children Without Enough to Eat

**M**EDICAL examination of one million children to see how their health and vigor have been affected by the depression is the aim of the U. S. Children's Bureau, urged at its Washington conference of scientists and relief workers to determine where and how these examinations are to be made. Funds for the examinations will not be forthcoming from the Federal Relief Administration.

Harry Hopkins, Federal Relief Administrator, told the conference that there are six million children in the country without enough to eat because their parents are "taking the licking in this depression." These children are known to relief agencies already. Their families are getting public assistance, to the extent that the whole family has fifty cents a day for all living expenses. The number of children getting private assistance is not known.

The thing to do is to feed these children, in Mr. Hopkins' opinion. Relief funds should be used to feed and clothe these children, and to pay for doctors and nurses when they are ill. In addition a certain amount of sickness prevention may be undertaken, such as furnishing toxin-antitoxin to prevent the development of diphtheria among the children "on relief." But apparent-

ly none of the Federal Relief Administration Funds will go for well baby clinics.

"I doubt if we have responsibility for baby health stations and clinics for health examinations," Mr. Hopkins specifically said.

The physical results of malnutrition in children are not the only ones to be considered, Mrs. Franklin D. Roosevelt told the conference.

She urged consideration of what undernourishment resulting from the depression will do to the minds, characters and dispositions of American children. If children are undernourished they can take very little advantage of other things being offered by libraries, schools and playgrounds.

*Science News Letter, October 21, 1933*

## ENGINEERING

## 400,000 Yards of Concrete In Feet of Boulder Dam

**O**NE OF THE first of many striking pictures that will undoubtedly come from the building of Boulder Dam is reproduced below. These massive columns of artificial stone are the feet upon which the dam will rise some 600 feet higher. You are looking down-



SOLID SKYSCRAPERS OF CONCRETE

stream into the river bottom made dry for construction by two temporary earth dams and diversion tunnels. (SNL, Sept. 30, '33, p. 216)

This forest of concrete columns has a width of almost 400 feet and a depth of about 650 feet. These are the dimensions of the dam at its base. At the crest, the 650 feet shrink to a thickness of 45 feet and the 400 feet expand to 1,180 along a huge semi-circle.

The concrete work shown in the picture, which was taken at the end of September, has a volume of about 400,000 cubic yards. When completed the dam alone will contain 3,400,000 cubic yards of concrete and the dam, power plant and appurtenant works, 4,400,000 yards.

*Science News Letter, October 21, 1933*

## ENTOMOLOGY

## Entomologist Doubts Bee's Aid to Comrade

**W**ILL a bee really come to the aid of a drowning comrade?

W. R. Walton, of the Bureau of Entomology, U. S. Department of Agriculture, controverts a story of such an occurrence, which was reported to *Science* by Prof. H. R. Phalen of St. Stephens College, New York, and retold in the SCIENCE NEWS LETTER (See SNL, Oct. 7, 1933, p. 233). Prof. Phalen said that he saw a drowning bee in a bird bath seized and towed ashore by another bee.

Commenting on this, Mr. Walton stated:

"Without doubt, Prof. Phalen tells the facts exactly as he saw and interpreted them but what really occurred, I believe, was as follows: As the drowning bee struggled back-downward on the surface of the water, a robber fly, member of the dipterous family *Asilidae*, probably the species *Mallophora clausicella*, which looks amazingly like a honeybee, swooped down, grasped the bee, and carrying her off to the surrounding shrubbery, proceeded to make a meal of her. Much to the chagrin of beekeepers, these bee-like robber flies sometimes assume the habit of lurking around the entrances of the beehives, there to 'rescue' many a bee from its life of sordid toil.

"Entomologists, I believe, would readily accept my version of this incident, but students of animal behavior very probably will proceed to expatiate upon Prof. Phalen's story in centuries to come."

*Science News Letter, October 21, 1933*

## PHYSICS

# Invisible Light Found to Pierce Thin Metal Films

Discovery at Johns Hopkins Results in Creation of New Research Tools For Filtering Ultraviolet and Infrared

**N**EW tools for the study of invisible light rays have been placed in the hands of science as a result of researches on the optical properties of metals by two physicists at Johns Hopkins University. Prof. R. W. Wood has found that thin films of the alkali metals possess the unique property of being transparent to ultraviolet light, and a colleague, Prof. A. H. Pfund, has succeeded in preparing powder films of silver, gold, and several other metals that are transparent for the infrared or heat rays. Both types are opaque to visible light.

The value of these filters in scientific research lies in their ability to remove the visible rays from a beam of light. Visible light is almost always produced in sources of infrared or of ultraviolet light and frequently causes disturbances in measurements. Of the few materials now known which are capable of transmitting ultraviolet but not visible light one is a nickel oxide glass invented by Prof. Wood. The new alkali metal filters transmit a wider range in the ultraviolet spectrum than any filters of this type previously available. Technical applications, such as photoelectric counters operating with invisible beams, may be expected to follow.

The alkali metals, lithium, sodium, potassium, rubidium, and caesium, are soft, lustrous, highly reactive materials now used extensively in the production of photoelectric cells. A sixth member in this chemical family, element number 87, has not yet been isolated. The preparation of thin films of these metals was achieved by Prof. Wood by an ingenious method in which the metal is heated in a quartz bulb, the top of which is cooled to the very low temperature of liquid air. The metallic vapor condenses on the cold wall, forming a film whose thickness can be varied by regulating the heating of the metal. The operation is carried out in a vacuum. Films a hundred-thousandth of an inch thick, of each of the five alkali metals, were made in this way.

Prof. Wood discovered that all five of these metals were transparent to ultraviolet light, but the point in the spectrum at which they become transparent depends on the metal. Thus lithium, the lightest element in this group, transmits only the short wavelength part of the ultraviolet region, while for caesium, the heaviest member, the transition point occurs in the visible part of the spectrum. In addition to the ultraviolet, caesium transmits violet light and films of this metal are described as having a rich violet color.

## Deposited on Nitrocellulose

This investigation included the study of various other optical properties of the alkali metals, such as reflecting power and interference phenomena. It was from observations of the latter that it was possible to determine the thickness of the films.

The infrared filters studied by Prof. Pfund consist of deposits of metallic powders on thin films of nitrocellulose.

The nitrocellulose film, too thin to show interference colors, is floated in a dish of mercury above which is suspended a conical tungsten filament containing the metal to be deposited. On heating the filament the metal suspended in it vaporizes and deposits on the film in the form of a black powder, the particles in which are too small to be seen through a microscope. The trick in this preparation lies in having the pressure of hydrogen or air in the chamber exactly right at about three millimeters of mercury (one-eighth of an inch). Films of gold, silver, nickel, copper, zinc, cadmium, lead, bismuth, antimony, selenium, and tellurium were produced.

## Zinc Altogether Opaque

All of these were opaque to visible light and transmitted the long wavelength heat rays except zinc. The zinc films were opaque over the whole region. However, this property of zinc black will make it useful, Prof. Pfund believes, for coating the receiving areas of infrared detectors such as thermopiles and radiometers since zinc black is capable of transforming the infrared radiation into actual heat.

An unexpected result was found in the study of powder films made of coarse particles. A quartz film, having a particle diameter of two ten-thousandths of an inch, transmitted only a very narrow band of wave-lengths in the infrared.

*Science News Letter, October 21, 1933*

## PALEOBOTANY

# Carbonized Tree Found In Rim of Crater Lake

**A** CARBONIZED tree still standing on its roots, recently discovered within the rim of Crater Lake, is considered one of the most important finds made in the area of Crater Lake National Park since the lake was first discovered by white men in 1853.

When first observed, only a portion of the log was exposed. Excavation and examination showed it to be the stump and bole of a prehistoric tree. It is  $3\frac{1}{2}$  inches in diameter at the top and  $15\frac{1}{2}$  at the base, with a total length of 52 inches. Only the top part was carbonized, the lower section, including the huge branching roots, being uncarbonized and more or less decayed.

Park Naturalist D. S. Libbey states that the location of a carbonized log within the crater slope surrounding Crater Lake, with a stump and roots uncarbonized and partially decomposed, presents many problems.

Indications are that the tree was growing on a glaciated surface covered with glacial debris. Cool volcanic material tumbling down the slope covered its roots and base. Later, hot volcanic material settled around the remainder of the tree so quickly that air was excluded, combustion was prevented, and carbonization resulted.

*Science News Letter, October 21, 1933*

## PHYSICS

## Electric Charge of Positron Confirmed

**T**HE FORCE with which the positive electron—newest addition to the bricks from which atoms are made—is attracted towards a neighboring oppositely charged body, has been roughly measured by Dr. Jean Thibaud, in the X-ray laboratories of the duc de Broglie, in Paris. The charge of the positive electron, better known in America, the country of its discovery, under the name of positron, is shown to be of the same order of magnitude as that of its companion, the negative electron.

Dr. Thibaud explains in a communication to *Nature*, how he placed the source of positrons between two plane parallel grid plates, one of which was grounded and the other charged first positively and then negatively. A noticeable deflection of the positron tracks was observed, amounting to 2.3 mm (about one tenth of an inch) when the charge on the plate was changed from +5,000 to -7,000 volts.

The electric charge of the positron has already been estimated from its deflection in an electromagnetic field pro-



COCK-HORSE ON ANCIENT GREEK VASE

*The Cock-Horse, of Banbury Cross fame, has come to life on an old Greek vase. Here he is, with a horse's head and neck and forelegs and a bird's tail feathers and short legs. And to complete the picture as we know it in the modern nursery rhyme, a youth is riding the strange steed. The vase decorated with this mythical beast is one of the latest discoveries in the Athenian Agora, by Prof. T. Leslie Shear of Princeton University*

duced by electric currents. The new electrostatic method described will give a more accurate determination of the ratio of the electric charge of the positron to its mass. The mass of the positron is estimated to be about the same as that of the negative electron.

*Science News Letter, October 21, 1933*

## ASTRONOMY

## Light From Exploding Star May Solve Corona Riddle

**D**ISCOVERY of green and red light spectral lines in the exploding "new star" in Ophiuchi that heretofore have been found only in the sun's corona, invisible except during the rare few minutes of total solar eclipse, promises to solve the most conspicuous riddle in astronomical spectroscopy.

Dr. W. S. Adams, director, and Dr. Alfred H. Joy, astronomer, of Mt. Wilson Observatory, Calif., have announced to the astronomical world that in a spectrogram of the nova R. S. Ophiuchi taken on October 2 they found the green corona line 5303 strong and the strong red line at 6374 shifted from position of the ionized silicon line previously observed. The present line, they reported, is almost certainly due to corona. These lines have appeared within the past three weeks. The Mt. Wilson astronomers find that the structure of the green line is very similar to line 4686 of ionized helium.

"The high significance of this discovery," Dr. Harlow Shapley, director of Harvard Observatory, commented in interpretation, "lies in its direct bearing on the problem of the nature of the sun's corona as well as its relation to the interpretation of novae. These two bright lines have heretofore been found only in spectra of the solar corona, never in stars, and their interpretation has so far baffled astro-physicists.

"The element that gives rise to them is unknown though oxygen has been suspected. Since the unravelling of most of the nebular mysteries and the identification of the strongest auroral radiations with oxygen, the coronal lines have remained as our most conspicuous riddle in astronomical spectroscopy.

"Finding the lines in recent spectrograms of the exploding atmosphere of the remarkable nova R. S. Ophiuchi may give us important hints as to their source. Their changing behavior as the

light of the nova fades compared with the behavior of lines of known origin will help identify the element and resolve the mystery of the corona."

The so-called "new star" R. S. Ophiuchi was originally discovered as a peculiar variable star identified by Harvard observers. It was later identified through spectral studies as a nova, a star that suddenly increases greatly in brilliance. In August this nova again flared up in typical nova fashion, the first news of this outburst being reported by L. C. Peltier, amateur astronomer of Delphos, Ohio. Immediately astronomers began careful analysis of the nova's fading light.

*Science News Letter, October 21, 1933*

## Front Cover Picture

**C**OULD YOU climb a smooth slide as the baby on the front cover does when you were a year and a half old.

Of course not. But perhaps you could have, had you been given the training that 18-months-old Johnny, pictured in one of his favorite exercises, has gone through; for his twin brother, Jimmy, who has lived the untrained life of a normal infant, cannot climb and skate and swim and dive like his brother. However, the normally-cared-for Jimmy sat alone, learned to reach for toys and stood alone at practically the same time as his twin who has been exercised since he was 20 days old.

With Johnny is pictured Dr. Myrtle B. McGraw who conducted this experiment at the Babies Hospital, New York City.

*Science News Letter, October 21, 1933*



# • First Glances at New Books

## Aeronautics

THE STORY OF AIRCRAFT—Chelsea Fraser—*Crowell*, 510 p., \$2.50. Primarily a boy's book written in popular style with two parts, one devoted to lighter than air and the other to heavier than air flight.

*Science News Letter*, October 21, 1933

## Agriculture

FROM PEASANT TO COLLECTIVE FARMER—N. Buchwald and R. Bishop—*International Publishers*, New York, 102 p., 75c. A vivid description of the agrarian transition in the U. S. S. R., as seen through the friendly eyes of two correspondents at the First Congress of Collective Farm Shock-Brigade Workers in Moscow.

*Science News Letter*, October 21, 1933

## Archaeology

THE GREAT CHALICE OF ANTIOCH—Gustavus A. Eisen—*Fabim Kouckakji*, New York, 22 p., \$1.50. Since the Chalice of Antioch visited the Chicago fair, it has doubtless become a familiar name to more people than ever before. Hence, the timeliness of this popular account in a slim quarto volume, beautifully illustrated with photographs and etchings showing the figures of Christ and the Apostles. Dr. Eisen argues effectively that the chalice dates from the first century A.D., which if correct gives the portraits great religious and historic significance. The opposing view has been that the chalice was not made until some centuries later. But Dr. T. A. Olmstead in an introduction says that the first century date is now supported, almost without exception, by those most competent to judge.

*Science News Letter*, October 21, 1933

## Archaeology

OUT OF THE PAST OF GREECE AND ROME—Michael I. Rostovtzeff—*Yale Univ. Press*, 129 p., \$2. Written primarily for older boys and girls, this very informative account would seem likely to appeal more strongly to adult readers. It contains descriptions of Greek colonies along the Black Sea, the eruption of Vesuvius, the Olympic games, the caravan cities of Petra and Palmyra, and other scenes of the past which are less well known than the oft-described life in Rome and Athens. A number of interesting drawings illustrate the book.

*Science News Letter*, October 21, 1933

## Astronomy

ASTRONOMY FROM A DIPPER—Eliot C. Clarke—*Houghton Mifflin*, 72 p., \$1.25. The new edition of a little book that uses the Dipper as a visual stepping stone to other constellations.

*Science News Letter*, October 21, 1933

## Astronomy—Biography

AN ASTRONOMER'S LIFE—Edwin Brant Frost—*Houghton Mifflin*, 300 p., \$3.50. The autobiography and personal reminiscences of one of America's most distinguished astronomers, who is now Director Emeritus of the Yerkes Observatory. The world at large would have a better realization of the humanness of scientific men if more of them would follow Dr. Frost's example and place their scientific achievements in an autobiographical setting.

*Science News Letter*, October 21, 1933

## Biography

MARX, FREUD AND EINSTEIN—Solomon B. Freehof—*Argus Book Shop*, 47 p., 50c. Brief essays upon "three who have changed the mind of the world."

*Science News Letter*, October 21, 1933

## Biology

ANIMAL BIOLOGY—Robert H. Wolcott—*McGraw-Hill*, 615 p., \$3.50. A soundly-planned, well-written, cleanly-illustrated textbook, dedicated to a "platform" which includes as its final and culminating plank the belief that "every problem concerned with living is essentially a biological problem and capable of analysis and solution by the application of biological principles."

*Science News Letter*, October 21, 1933

## Biology

SEX IN THE PLANT WORLD—Wilfred W. Robbins and Helen Monosmith Pearson—*Appleton-Century*, 193 p., \$2. Sex in the animal world has long been familiar enough; though some of us are surprised a little when we learn of its curious manifestations among some of the lower animals. But sex among plants is a phenomenon more recently known even to biologists, and its manifestations may seem even stranger to one "reading up" on the matter for the first time. It is therefore a distinct advantage to have a good, clearly written, clearly illustrated popular book devoted entirely to this one subject, tracing sex-

ual reproduction all the way from the lowliest fungi to the most highly specialized orchids. The book is the latest addition to the Appleton New World of Science Series, edited by Watson Davis.

*Science News Letter*, October 21, 1933

## Chemistry

SOME PHYSICAL PROPERTIES OF THE COVALENT LINK IN CHEMISTRY—Nevil Vincent Sidgwick—*Cornell Univ. Press*, 249 p., \$2. Based upon the lectures that Dr. Sidgwick gave at Cornell in 1931 as the George Fisher Baker Non-Resident Lecturer in Chemistry, this book sets forth the methods of measurement of some of the more important properties of non-ionized links and discusses results. After an introductory chapter on the relation of physics to chemistry, there are the following chapters: atomic cohesion, electrovalence and covalence, dimensions of covalent links, heats of formation of covalent links, electrical dipole moments, and stereochemistry.

*Science News Letter*, October 21, 1933

## Chemistry—Engineering

CHEMICAL ECONOMICS—Williams Haynes—*Van Nostrand*, 310 p., \$3.25. The publisher of "Chemical Markets" and "Plastic Products" sets forth the economic principles that underlie the making and selling of chemicals. The influence of chemicals in the development of modern industrialism is also covered in the two parts of the volume, the first of which is devoted to economic foundations and the second of which is devoted to historical background. Of great (Turn to Page 269)

## ▼ MOSSES

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O

an address by

Dr. A. J. Grout

prominent investigator of  
and writer about mosses

To be given Friday, Oct. 27, at 3:00 p. m. Eastern Standard Time over stations of the Columbia Broadcasting System. Each week a prominent scientist speaks over the Columbia System under the auspices of Science Service.

## BIOLOGY

**Potentialities Unlimited**

● "ONLY a minute fraction of the universe, it appears, has as yet brought forth life. The elementary constituents of the universe, it is certain, are of such a nature that they can and do bring forth life when combined in certain ways. But in only a very small proportion of them have these combinations thus far been formed. Even on our earth, it is but a thin rind that has brought forth life. And, according to the views of some modern astronomers, the conditions for life seem to be present in but few of the heavenly bodies. Yet since the constituents of the universe are of a nature to produce life when rightly combined, the remainder, or some part of the remainder, need but enter into such combinations in order to bring forth life on a vaster scale than has yet occurred."—H. S. Jennings in *THE UNIVERSE AND LIFE* (Yale Univ. Press).

*Science News Letter, October 21, 1933*

## ENGINEERING

**Growing Into Gianthood**

● "AS recently as 1922, the present systems of air conditioning were perfected, so that efficient and automatic equipment became commercially available. In fact, it may be said that only thirty years ago very little was known about the theory and practice of air conditioning; and it was as the result of the research and mechanical ingenuity of Willis Carrier that present accomplishments in this field have been made possible. . . There are many reasons to expect that during the next few years there will be an enormous increase in the number of installations of air-conditioning equipment in public buildings, factories and residences. In fact, it is likely that there will be an expansion in the air-conditioning industry during the next decade that will be comparable with the great expansion in the automobile industry from 1919 to 1929."—James A. Moyer and Raymond U. Fittz in *AIR CONDITIONING* (McGraw-Hill).

*Science News Letter, October 21, 1933*

## EDUCATION

**Crisis in Education**

● "THERE is at present a crisis in education. Obviously there is a crisis financially. But such constriction of resources has only emphasized a confusion already apparent. A conventional school neither understands nor has any program with reference to child devel-

opment. And even in the task which it considers central, the furthering of formal learning, it seems extraordinarily inefficient. There is danger that the current increases in teaching load, the lack of equipment, and the frequent shortening of the school year, together with a lowering of professional morale (due to the greater burdens and greater uncertainties to which teachers are subjected, plus the extension of cancerous political influence) may cause a general educational deterioration."—S. L. Pressey in *PSYCHOLOGY AND THE NEW EDUCATION* (Harper).

*Science News Letter, October 21, 1933*

## ASTRONOMY-BIOGRAPHY

**Seeing Without Eyes**

● "WITH A GOOD memory and an adequate imagination one can see much without the use of the eyes. . . . It has not seemed quite fair play that I should be expected to pose as a blind man just because I lost my sight after middle age and found ways of carrying on despite the handicap. It so happened that I had given careful attention to the phenomena of Nature, and had traveled considerably, and had stored away many imperishable memories. I often say that I should have no cause for complaint, as I perhaps have been privileged to see more than is allotted to the average individual."—Edwin Brant Frost in *AN ASTRONOMER'S LIFE* (Houghton Mifflin).

*Science News Letter, October 21, 1933*

## SOCIAL SCIENCE

**Conduct**

● "NOTHING influences our conduct less than do intellectual ideas."—C. G. Jung in *MODERN MAN IN SEARCH OF A SOUL* (Harcourt, Brace).

*Science News Letter, October 21, 1933*

## EXPLORATION

**Arctic Diet**

● "IN THE ARDUOUS journey out and the still harder days of climbing, mostly full ten-hour days too, the daily food consisted of:

Breakfast: 1½ oz. oats, ½ biscuit, cup of tea; Lunch: 1 biscuit, 2 oz. chocolate, cup of lemon juice; Supper: 5 oz. pemmican, 2 oz. pea flour, ½ biscuit, cup of cocoa; as well as the inevitable spoonful of cod-liver oil each day. That is about 20 oz. per diem, yet they felt perfectly satisfied and fit."—F. Spencer Chapman in *NORTHERN LIGHTS* (Oxford Univ. Press).

*Science News Letter, October 21, 1933*

**THE AUDIENCE**

## AVIATION

**Night Flying**

● "TO THE PASSENGER night travel has a fascination not felt by those who travel only by daylight. In mountainous country the dim outlines of the near-by masses rise up bold and black beside the course and seem far greater than under the glare of the sun. With the gradual waning of the evening light the exhaust from the motors alongside the cabin spits out sheets of flame which throw a lurid glow upon the wings and struts just outside of the window. The flashing beacons off at one side are then easily seen, and to the night traveler over the desert they constitute the only features of interest outside of the cabin."—A. K. Lobeck in *AIRWAYS OF AMERICA* (Geographical Press, Columbia Univ.).

*Science News Letter, October 21, 1933*

## BIOLOGY

**Disowning Green "Animals"**

● "WE ARE still tied firmly to the old tradition that animals move and plants are quiescent, and a chlorophyll-bearing organism, if actively moving, is *ipse facto* an animal. Were I to advocate this as the main distinction between animals and plants, there would be, undoubtedly, a storm of protests from all biologists. And yet, what other characteristics do chlorophyll-forming organisms have to justify us in claiming them as animals? At the present time there is a double taxonomic system, one botanical, the other zoological for these questionable forms, and these systems are widely different. We can avoid the resulting confusion by adopting one or the other system of classification. My own conviction is that zoologists should follow the historical precedent furnished in the last century by the elimination from Protozoa of filamentous algae, desmids and diatoms, and now transfer to the botanists the entire aggregate of so-called Protozoa in which the ability to form chlorophyll is a characteristic."—Gary N. Calkins in *THE BIOLOGY OF THE PROTOZOA* (Lea & Febiger).

*Science News Letter, October 21, 1933*



# DRS SAY:

## MILITARY SCIENCE

### What a Bombardment Costs

● "IN THE Third Battle of Ypres, which took place during the summer and autumn of 1917, the British fired 4,282,550 shells, costing £22,000,000, in the preliminary bombardments before the battle opened. This number of shells represents 107,000 tons, which translated into terms of transportation means: 27 four-thousand ton shiploads; 540 four-hundred ton trainloads (in England and France) and 35,666 three-ton lorry-loads."—Maj-Gen. J. F. C. Fuller in *WHAT WOULD BE THE CHARACTER OF A NEW WAR?* (Harrison Smith and Robert Haas).

*Science News Letter, October 21, 1933*

## PSYCHOLOGY

### A Price on Success

● "CERTAINLY the child should be encouraged with praise and approval; he should receive unmistakable evidence of the satisfaction which the parents feel over his efforts and application. To pay in cash for success in carrying out his daily tasks, however, is to give the child a false view of his obligations, a false motive for his efforts, and a false scale of values and relationships. Perhaps we can see this more clearly when we consider the corresponding practice of fining or penalizing a child for deficiencies or failures. What would be a fair amount of fine for a child to pay for having failed in geography? What price history or grammar?"—S. M. and B. C. Gruenberg in *PARENTS, CHILDREN, AND MONEY* (Viking Press).

*Science News Letter, October 21, 1933*

## GEOGRAPHY

### Singing Sands

● "QUITE SUDDENLY the great amphitheatre began to boom and drone with a sound not unlike that of a siren or perhaps an aeroplane engine—quite a musical, pleasing, rhythmic sound of astonishing depth. Only once before had I heard the phenomenon of the famous 'Singing Sands'—near the tumbled dunes of Badr between Yanbu' and Madina in July, 1928,—but on that occasion I had heard them only from

afar. Here at Naifa the conditions were ideal for the study of the sand concert, and the first item was sufficiently prolonged—it lasted perhaps about four minutes—for me to recover from my surprise and take in every detail. . . . The key to the situation was Sa'dan, seated on the top of the slope. It was evident that the music was being engendered by the sand sliding down the steep slope from under him. . . . When he came down, having had enough of that form of amusement, I went up in his place armed with a bottle (to collect a sample of the sand), note-book and watch."—H. St. J. B. Philby in *THE EMPTY QUARTER* (Holt).

*Science News Letter, October 21, 1933*

## BOTANY

### Sugar and Spice

● "BUT A SPECIES which depends upon environment to settle its sex problem is in great danger of extermination. All of the individuals living close enough together to mate are apt to be of the same sex since they live under very much the same conditions. What would become of the Mexicans if hot pepper and hot weather made girls? What would happen to America if the codliver oil and sun baths it is the fashion nowadays to give babies made boys? Probably the United States would annex Mexico, but a similar situation in plants could not be so easily remedied."—Wilfred W. Robbins and Helen M. Pearson in *SEX IN THE PLANT WORLD* (Appleton-Century).

*Science News Letter, October 21, 1933*

## ECONOMICS

### Our Greatest Fault

● "OUR present marketing system is under a heavy fire of adverse criticism. Publicists and economists have been at pains to point out its weaknesses and extravagances. Industrialists appreciate that distribution has lagged far behind the progress made by production and that it holds many opportunities to increase efficiency and to effect economy. The growth of the big department stores, the mail order houses, the chain stores, and the plans to eliminate all sorts of middlemen—jobbers, sales agents, commission men, brokers—are but different phases of the effort to cut distribution costs by simplifying the marketing process."—Williams Haynes in *CHEMICAL ECONOMICS* (Van Nostrand).

*Science News Letter, October 21, 1933*

## ANTHROPOLOGY

### Superior Beasts

● "RETURNING now to man's superiority as a reasoner, Charron follows the theriophilic tradition in disparaging reason. Most of our woes come from it; vice, passion, illness, irresolution, worry, despair. Beasts, as the animals in Gelli's *Circe* pointed out, have no fear of the future, whereas man cannot escape it. Our supposed advantage, resident in our power to command them, simply does not exist: we fear them more than they do us. Nor are we free and they in servitude, as is sometimes maintained, for we have slaves, they none. Moreover men war on one another; they live in peace. Nor are we more virtuous than they, at least not materially, whatever we may be formally. They are more friendly, faithful, and magnanimous than we, nor is any beast so unjust, thankless, treacherous, perfidious, and deceitful as man."—George Boas in *THE HAPPY BEAST* (Johns Hopkins Press).

*Science News Letter, October 21, 1933*

## ARCHAEOLOGY

### Not Mere Museum Science

● "BUT JUST as one can stultify Homer by too much insistence on the Aeolic dialect and the peculiarities of prosody, syntax, and inflection, the insistence on the methodological side of archaeology, the ambition to convert the pseudo-science into a genuine one, can destroy its general value for the modern world. To catalog and classify all the vases, statues, statuettes, coins, gems, and other objects is to perform a real service; but to leave it at that is to sin against the light."—Rhys Carpenter in *THE HUMANISTIC VALUE OF ARCHAEOLOGY* (Harvard Univ. Press).

*Science News Letter, October 21, 1933*

## HISTORY

### Beginning of Character

● "THE EGYPTIANS were the discoverers of character. It is fundamentally important that our modern world should realize how recent is that discovery. Civilization is built up on character, and the foundations are therefore still so new that we need feel no discouragement if the building has not yet exhibited the stability we may yet hope to see it achieve."—James H. Breasted in *THE DAWN OF CONSCIENCE* (Scribners).

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# NEW BOOKS

## Aeronautics

- AIRWAYS OF AMERICA, GUIDE BOOK NO. 1, A. M. Lobeck—*Geographical Press, Columbia Univ.*, \$2.50, fall.  
 AVIATION ENGINES—D. M. Carpenter—*International Textbook Co.*, \$\*, Dec. 1.  
 MARINE AIRCRAFT DESIGN—William Munro—*Pitman*, \$4.50, Aug.  
 THE STORY OF AIRCRAFT—Chelsea Fraser—*Crowell*, \$2.50, Oct. 10.  
 STRESSES IN AEROPLANE STRUCTURES—H. B. Howard—*Pitman*, \$5, Aug.

## Archaeology

- THE DAWN OF CONSCIENCE—J. H. Breasted—*Scribner's*, \$\*, Oct. 13.  
 THE HUMANISTIC VALUE OF ARCHAEOLOGY—Rhys Carpenter—*Harvard Univ. Press*, \$1.50, fall.  
 MAN'S LONG CLIMB—Marion Lansing—*Little, Brown*, \$1.75, Sept. 22.  
 THE ORIENTAL INSTITUTE—James Henry Breasted—*Univ. of Chicago Press*, \$\*, Oct.  
 OUT OF THE PAST OF GREECE AND ROME—Michael I. Rostovtzeff—*Yale*, \$2, fall.

## Astronomy

- AN ASTRONOMER'S LIFE—Edwin Brant Frost—*Houghton Mifflin*, \$3.50, Oct. 4.  
 THE ASTRONOMICAL ASPECT OF THE THEORY OF RELATIVITY—W. de Sitter—*Univ. of California Press*, \$2.50, fall.  
 ASTRONOMY FROM A DIPPER—Eliot C. Clarke—*Houghton Mifflin*, \$1.25, fall.  
 THE COMPOSITION OF THE STARS—Henry N. Russell—*Oxford*, 70c, Aug. 3.  
 THE PLACE OF OBSERVATION IN ASTRONOMY—H. H. Plaskett—*Oxford*, 75c, Sept. 7.

## Biology

- ANIMAL BIOLOGY—R. H. Wolcott—*McGraw-Hill*, \$3.50, Sept. 19.  
 GENERAL BIOLOGY—Grace White—*Mosby*, \$3, July 10.  
 THE HISTORY OF STAINING—H. J. Conn—*Book Service of the Biological Stain Commission*, Geneva, N. Y., \$2, fall.  
 AN INTRODUCTION TO BIOLOGY—E. C. Cole—*Wiley*, \$1.75, fall.  
 LIFE IN THE MAKING—Alan Frank Guttmacher—*Viking*, \$2.75, Sept. 8.  
 THE LIVING WORLD—Helen Gardner Mank—*Sanborn*, \$1.68, fall.  
 THE UNIVERSE AND LIFE—H. S. Jennings—*Yale*, \$1.50, Sept. 12.

## Botany

- THE ALGAE AND THEIR LIFE RELATIONS—Josephine E. Tilden—*Univ. of Minnesota*, \$4, Nov. 30.  
 THE FLORA OF LEICESTERSHIRE AND RUTLAND—A. R. Horwood—*Oxford*, \$14\*, fall.

\*Stars following items of price or publication date indicate that information is only tentative, or has not yet been definitely announced.

This list includes late summer and fall titles already published and books promised by publishers later in the year. As financial advertisements and time tables are fond of reciting, this information is based on authoritative data, not guaranteed and subject to change.

PHYTOPATHOLOGICAL AND BOTANICAL RESEARCH METHODS—T. E. Rawlins—*Wiley*, \$2.50, fall.

- PLANTS USEFUL TO MAN—W. W. Robbins and Francis Ramaley—*Blakiston's*, \$3, fall.  
 SEX IN THE PLANT WORLD—Wilfred W. Robbins and Helen Monosmith Pearson—*Appleton-Century*, \$2, Oct. 6.  
 THE TREES OF THE SOUTHEASTERN STATES—W. C. Coker and H. R. Totten—*Univ. of North Carolina*, \$2, Dec. 9.

## Chemistry

- BOOK OF CHEMICAL LABELS AND TABLE OF ATOMIC WEIGHTS—Robert A. Haag, \$1, Sept. 1.  
 ALLOYS OF IRON AND SILICON—E. S. Greiner, J. S. Marsh, and Bradley Stoughton—*McGraw-Hill*, \$5, Aug. 22.  
 CHEMICAL ECONOMICS—Williams Haynes—*Van Nostrand*, \$3.25, fall.  
 CHEMICAL ENGINEERS HANDBOOK—Ed. by J. H. Perry—*McGraw-Hill*, \$\*,  
 CHEMICAL PATENTS INDEX, UNITED STATES, 1915-1924, SUBJECT INDEX F-L, Vol. 2—Edward C. Worden—*Chem. Cat. Co.*, \$25, Sept.  
 INDUSTRIAL CHEMISTRY—W. T. Read—*Wiley*, \$5, fall.  
 INDUSTRIAL CHEMISTRY, AN INTRODUCTION 2nd ed.—E. Raymond Riegel—*Chem. Cat. Co.*, \$6, Sept.  
 THE KINETICS OF REACTION IN SOLUTION—E. A. Moelwyn-Hughes—*Oxford*, \$5\*, Nov.  
 PHASE RULE STUDIES—J. E. W. Rhodes—*Oxford*, \$2.25, July 6.  
 PLASTIC MOLDING—L. F. Rahm—*McGraw-Hill*, \$\*, Oct.  
 SOME PHYSICAL PROPERTIES OF THE COVALENT LINK IN CHEMISTRY—Nevil Vincent Sigwick—*Cornell Univ. Press*, \$2, fall.  
 TEXTBOOK OF PHARMACEUTICAL CHEMISTRY—A. O. Bentley and J. E. Driver—*Oxford*, \$3.50\*, fall.

## Economics

- COMMON SENSE ABOUT MACHINES AND UNEMPLOYMENT—Morris P. Taylor—*Winston*, \$1.50, fall.  
 THE CULTURE AND MARKETING OF TEA—C. H. Harler—*Oxford*, \$4, fall.  
 A HANDBOOK OF NRA: LAWS, REGULATIONS, CODES—*Federal Codes*, \$4.50, fall.  
 HOW TO BUY BEEF—Evelyn G. Halliday and Isabel T. Noble—*Univ. of Chicago*, 75c, Oct. 17.  
 METHODS OF STATISTICAL ANALYSIS—G. R. Davies and W. F. Crowder—*Wiley*, \$3.25, fall.  
 WORLD RESOURCES AND INDUSTRIES—Erich W. Zimmermann—*Harper*, \$5, fall.

## Electrical Engineering

- ALTERNATING CURRENT CIRCUITS—M. P. Weinbach—*Macmillan*, \$4.50, Aug. 15.  
 DIRECT AND ALTERNATING CURRENTS—E. A. Loew—*McGraw-Hill*, \$4.50, July 11.  
 ELECTRICAL CONCEPTIONS OF TODAY—Charles R. Gibson—*Lippincott*, \$3, Sept. 14.

ELECTRICAL TRANSMISSION AND DISTRIBUTION—E. T. A. Rapson—*Oxford*, \$4.50\*, Nov.

ELECTRICITY—John Pilley—*Oxford*, \$2.35\*, Nov.

PRINCIPLES AND PRACTICE OF ELECTRICAL ENGINEERING—A. Gray and G. A. Wallace—*McGraw-Hill*, \$4, Aug. 24.

## Engineering

- AIR CONDITIONING—J. A. Moyer and R. U. Fittz—*McGraw-Hill*, \$4, Sept. 14.  
 THE AMATEUR MACHINIST—A. Frederick Collins—*Appleton-Century*, \$2, Nov.  
 AMATEUR TALKING PICTURES AND RECORDING—Bernard Brown, *Pitman*, \$2.25, July.  
 BOILER DETAILS—PIPES AND FITTINGS—I. C. S. Staff—*International Textbook Co.*, \$\*, Dec. 1.  
 BOILER FUELS AND TRIALS—A. S. Callen and I.C.S. Staff—*International Textbook Co.*, \$1, Sept. 5.  
 CHASSIS OVERHAULING AND REPAIRING—M. C. Horine—*International Textbook Co.*, \$\*, Dec. 1.  
 CIVIL ENGINEERS' HANDBOOK—ed. by L. C. Urquhart—*McGraw-Hill*, \$3\*,  
 FORD MODELS V-8, B AND A CARS—Victor W. Pagé—*Henley*, \$2.50, fall.  
 INTERNAL COMBUSTION ENGINES—B. L. Maleev—*McGraw-Hill*, \$4, July 24.  
 INTERNAL COMBUSTION ENGINES—R. L. Streeter and L. C. Lichty—*McGraw-Hill*, \$4.50, Aug. 31.  
 MINERAL INDUSTRY, vol. 41—ed. by G. A. Roush—*McGraw-Hill*, \$12, Sept. 15.  
 THE MOTION PICTURE INDUSTRY—Howard T. Lewis—*Van Nostrand*, \$4, fall.  
 MODERN PHOTOGRAPHY: 1933-34—ed. by C. G. Holme—*Studio Publications*, cl. \$4.50, pa., \$3.50, Sept.  
 PIPE-FITTING PRACTICE—I. C. S. Staff—*International Textbook Co.*, \$\*, Dec. 1.  
 THE POWER AGE—Walter N. Polakov—*Covici, Friede*, \$2, Sept. 26.  
 THE PRINCIPLES OF METALLURGY—D. M. Liddell and G. E. Doan—*McGraw-Hill*, \$5.50, Oct.  
 PROCESS AND HIGH PRESSURE WORK—I. C. S. Staff—*International Textbook Co.*, \$2.15, fall.  
 PROSPECTING AND OPERATING SMALL GOLD PLACES—W. F. Boericke—*Wiley*, \$1.50, fall.  
 RAILWAY CAR RETARDERS—CENTRALIZED CONTROL—Ray R. Rockwell—*International Textbook Co.*, \$\*,  
 THE RAYLEIGH PRINCIPLE IN ENGINEERING—G. Temple and W. G. Bickley—*Oxford*, \$4.50, Aug. 31.  
 STEAM ENGINES—I. C. S. Staff—*International Textbook Co.*, \$\*, Dec. 1.  
 THE VOICE: ITS PRODUCTION AND REPRODUCTION—Douglas Stanley and J. P. Maxwell—*Pitman*, \$2.50, Sept.

## General Science

- DOES SCIENCE LEAVE ROOM FOR GOD?—R. O. P. Taylor—*Cokesbury*, \$1.25, fall.  
 GREAT MEN OF SCIENCE—Philipp Lenard—*Macmillan*, \$3, Sept. 12.  
 THE LIMITATIONS OF SCIENCE—J. W. N. Sullivan—*Viking*, \$2.75, Oct. 9.

100,000 WHYS—M. Ilin—*Lippincott*, \$1.50, Oct. 5.

THE ROMANCE OF RESEARCH—L. V. Redman and A. V. H. Mory—*Appleton-Century*, \$1, July 25.

TOURS THROUGH THE WORLD OF SCIENCE—W. T. Skilling—*McGraw-Hill*, \$1.70, July 11.

### Geography

CONQUEST OF A CONTINENT—Madison Grant—*Scribner's*, \$3, Oct.

ECONOMIC AND SOCIAL GEOGRAPHY—Ellsworth Huntington, F. E. Williams, and S. Van Valkenburg—*Wiley*, \$3.75, fall.

THE EMPTY QUARTER—H. St. J. B. Philby—*Holt*, \$4, fall.

NORTHERN LIGHTS—F. Spencer Chapman—*Oxford*, \$5, fall.

### Geology

MINERAL DEPOSITS—Waldemar Lindgren—*McGraw-Hill*, \$6.50, Sept. 11.

THIN SECTION MINERALOGY—A. F. Rogers and P. F. Kerr—*McGraw-Hill*, \$\*, Oct.

THE WORLD OF FOSSILS—Carroll Lane Fenton—*Appleton-Century*, \$2, Sept. 11.

### Mathematics

ANALYTIC AND VECTOR MECHANICS—H. W. Edwards—*McGraw-Hill*, \$4, July 11.

CONJUGATE FUNCTIONS FOR ENGINEERS—Miles Walker—*Oxford*, \$5.35\*, Nov.

CONTINUOUS GROUPS OF TRANSFORMATIONS—Luther Pfahler Eisenhart—*Princeton Univ. Press*, \$4, fall.

DIFFERENTIAL EQUATIONS—Max Morris and Orley E. Brown—*Prentice-Hall*, \$2.50, fall.

DIFFERENTIAL EQUATIONS—L. R. Ford—*McGraw-Hill*, \$3.50, Nov.

HIGHER MATHEMATICS FOR ENGINEERS AND PHYSICISTS—I. S. Sokolnikoff—*McGraw-Hill*, \$\*, fall.

MATHEMATICAL FACTS AND PROCESSES PRE-REQUISITE TO THE STUDY OF THE CALCULUS—William Henry Fagerstrom—*Teachers College, Columbia Univ.*, \$1.50, fall.

THE NATURE OF MATHEMATICS—Max Black—*Harcourt, Brace*, \$\*, Nov. 23.

SOME INFLUENCE OF THE REQUIREMENTS AND EXAMINATIONS OF THE COLLEGE ENTRANCE EXAMINATION BOARD ON MATHEMATICS IN SECONDARY SCHOOLS OF THE U. S.—Leslie Harper Whitcraft—*Teachers College, Columbia Univ.*, \$1.50, fall.

SYMMETRICAL COMPONENTS—C. F. Wagner and R. D. Evans—*McGraw-Hill*, \$5, July 7.

TABLES OF THE HIGHER MATHEMATICAL FUNCTIONS—Harold T. Davis—*Principia*, \$6.50, Oct. 11.

### Medicine

BEHIND THE DOCTOR—Logan Clendening—*Knopf*, \$3.75, Oct. 13.

THE CYCLOPEDIA OF MEDICINE—George Morris Piersol—F. A. Davis, \$120, Oct. 15.

FRONTIERS OF MEDICINE—Morris Fishbein—*Appleton-Century*, \$1, July 1.

THE GREAT DOCTORS—H. E. Sigerist—*Norton*, \$4, Sept. 28.

HEALTH FACTS FOR COLLEGE STUDENTS: A TEXT-BOOK OF INDIVIDUAL AND COMMUNITY HEALTH—Maude Lee Etheredge—*Saunders*, \$\*, Oct.

I GO NURSING—Corinne Johnson Kern—*Dutton*, \$2.50, fall.

MAYO FOUNDATION LECTURES ON THE HISTORY OF MEDICINE—*Saunders*, \$5, Aug.

MEDICAL RELATIONS UNDER WORKMEN'S COMPENSATION—Bureau of Medical Economics—*American Medical Association* 75c., fall.

NERVOUS BREAKDOWN—W. Béran Wolfe—*Farrar and Rinehart*, \$2.50, fall.

PUBLIC HEALTH NURSING IN INDUSTRY—Violet H. Hodgson—*Macmillan*, \$1.75, fall.

RED MEDICINE: THE HEALTH OF THE PEOPLE IN SOVIET RUSSIA—Sir Arthur Newsholme and John Adams Kingsbury—*Doubleday Doran*, \$2.50, Dec. 1.

THE SCIENCE OF RADIOLOGY—ed. by Ott Glasser—*Chas. C. Thomas*, \$4.50, Oct.

THE STORY OF CHILDBIRTH—Palmer Findley—*Doubleday Doran*, \$3, Aug. 9.

THERAPEUTIC AGENTS OF THE QUINOLINE GROUP—W. F. Von Oettingen—*Chem. Cat. Co.*, \$6, July.

### Physics

APPLIED HYDRO AND AERO MECHANICS—O. G. Tietjens—*McGraw-Hill*, \$\*, Oct.

THE DEVELOPMENT OF PHYSICAL THOUGHT—Leonard B. Loeb and Arthur S. Adams—*Wiley*, \$3.75, fall.

ELECTRON TUBES AND THEIR APPLICATION—J. H. Morecroft—*Wiley*, \$4.50, fall.

ELECTRONS AT WORK—C. Underhill—*McGraw-Hill*, \$3, Oct.

EXPERIMENTS WITH ELECTRICAL INSTRUMENTS—W. Somerville Vernon—*Oxford*, \$1.50\*, fall.

FUNDAMENTALS OF HYDRO AND AERO MECHANICS—O. G. Tietjens—*McGraw-Hill*, \$\*, Oct.

INTRODUCTION TO THEORETICAL PHYSICS—J. C. Slater and N. H. Frank—*McGraw-Hill*, \$\*, Oct.

LIFE-GIVING LIGHT—Charles Sheard—*Appleton-Century*, \$1, July 1.

MOLECULAR HYDROGEN AND ITS SPECTRUM—O. W. Richardson—*Yale*, \$3, Dec. 5.

THE PHYSICS OF ELECTRON TUBES—Louis Koller—*McGraw-Hill*, \$\*, Oct.

TEXTBOOK OF COLLEGE PHYSICS—C. A. Chent and E. F. Burton—*Holt*, \$3.25, fall.

THE THEORY OF ATOMIC COLLISIONS—N. F. Mott and H. S. W. Massey—*Oxford*, \$6\*, Nov.

THEORY OF ELASTICITY—S. Timoshenko—*McGraw-Hill*, \$\*, Oct.

THE UNIVERSE OF LIGHT—Sir Wm. Bragg—*Macmillan*, \$3.50, Aug. 8.

### Physiology

THE DISTRIBUTION OF THE CURRENTS OF ACTION AND OF INJURY DISPLAYED BY HEART MUSCLE AND OTHER EXCITABLE TISSUES—F. N. Wilson, A. G. Macleod, and P. S. Barker—*Univ. of Michigan*, \$1.50, plus postage, Oct.

THE GROWTH AND GONAD-STIMULATING HORMONES OF THE ANTERIOR HYPOPHYSIS—Herbert M. Evans, Karl Meyer and Miriam E. Simpson in collaboration with Alexander J. Szarka, Richard I. Pencharz, Robert E. Cornish and Frederick L. Reichert—*Univ. of California Press*, \$10, fall.

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### SOME BOTANICAL POINTS OF INTEREST

¶The common Easter Lily was unknown in the U. S. two generations ago.

¶The Date is a one-seeded berry.

¶What common vegetables were cultivated 4000 years ago?

¶The Vanilla plant is a climbing orchid.

¶Do sweet apples contain more sugar than sour apples?

¶Bananas are berries.

¶Raspberries, Blackberries, Strawberries are not true berries.

¶Asparagus and onion plants are of the lily family.

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THE HUMAN BODY AND ITS FUNCTIONS—C. H. Best and N. B. Taylor—*Holt*, student ed., \$3, trade ed., \$3.75, summer.  
NATURE AND NURTURE—Lancelot Hogben—*Norton*, \$2.50, Nov. 9.  
NEW FEET FOR OLD—John Martin Hiss—*Doubleday Doran*, \$2, Sept. 20.  
PHYSIOLOGY OF MUSCULAR ACTIVITY—Edward C. Schneider—*Saunders*, \$2.75, July.

## Psychology

THE APPROACH TO THE PARENT—Esther Heath—*The Commonwealth Fund*, \$1.25, fall.  
CHILD PSYCHOLOGY—Arthur T. Jersild—*Prentice-Hall*, \$3, fall.  
CHILDREN OF PRE-SCHOOL AGE—Ethel Kavin—*Univ. of Chicago*, \$3.50, Nov. 21.  
DO COLLEGE STUDENTS CHOOSE VOCATIONS WISELY?—Edward J. Sparling—*Teachers College, Columbia Univ.*, \$1.50, summer.  
A HANDBOOK OF CHILD PSYCHOLOGY—ed. by Carl Murchison—*Clark Univ. Press*, \$5, fall.  
HYPNOSIS AND SUGGESTIBILITY, AN EXPERIMENTAL APPROACH—Clark L. Hull—*Appleton-Century*, \$3.75, fall.  
THE ILLITERACY OF THE LITERATE—H. R. Huse—*Appleton-Century*, \$2, fall.  
INSTITUTIONAL BEHAVIOR—Floyd Henry Allport—*Univ. of North Carolina Press*, \$3.50, July 29.  
AN INTRODUCTION TO ANIMAL PSYCHOLOGY: THE BEHAVIOR OF THE RAT—Norman L. Munn—*Houghton Mifflin*, \$3, fall.  
LEADERSHIP AMONG HIGH SCHOOL PUPILS—Marion Brown—*Teachers College, Columbia Univ.*, \$1.75, fall.  
MODERN MAN IN SEARCH OF A SOUL—C. G. Jung—*Harcourt, Brace*, \$3, Aug. 24.  
MORE POWER TO YOU—Walter B. Pitkin—*Simon & Schuster*, \$1.75, Oct. 6.  
NEW LECTURES INTRODUCTORY TO PSYCHOANALYSIS—Sigmund Freud—*Norton*, \$3, Nov. 9.  
PERSONS ONE AND THREE—Shepherd Ivory Franz—*McGraw-Hill*, \$2, Sept. 25.  
PSYCHOLOGY AND THE NEW EDUCATION—S. L. Pressey—*Harper*, \$2.75, fall.  
SPEECH DISORDERS—Sara M. Stinchfield—*Harcourt, Brace*, \$3.50\*, Nov. 23.  
A SURVEY OF THE SCIENCE OF PSYCHOLOGY—J. R. Kantor—*Principia*, \$3.75, Aug. 5.

## Social Science

DYNAMIC SOCIAL RESEARCH—John J. Hader and Eduard C. Lindeman—*Harcourt, Brace*, \$3.50, Oct. 5.  
THE HAPPY BEAST—George Boas—*Johns Hopkins Press*, \$2, fall.  
KAPOOT—Carveth Wells—*McBride*, \$2.50, fall.  
METHOD AND THEORY OF ETHNOLOGY—Paul Radin—*McGraw-Hill*, \$2.50, Sept. 23.  
AN ORIENTATION COURSE IN EDUCATION—Joseph S. Butterweck and J. Conrad Seegers—*Houghton Mifflin*, \$2, fall.  
PARENTS, CHILDREN, AND MONEY—Sidonie M. and Benjamin C. Gruenberg—*Viking*, \$1.75, Sept. 25.  
RACES AND ETHNIC GROUPS IN AMERICAN LIFE—T. J. Wootter—*McGraw-Hill*, \$2.50, July 12.  
RURAL CRIME CONTROL—Bruce Smith—*Institute of Public Administration, Columbia Univ.*, \$2, fall.

SACRAMENTS OF SIMPLE FOLK—R. R. Mat-  
ett—*Oxford*, \$3.75, summer.  
SCIENCE IN DEFENSE OF LIBERAL RELIGION—Paul R. Anderson—*Putnam's*, \$3, Sept. 29.  
THE YOUNG MAN IN FARMING—A. K. Get-  
man and P. W. Chapman—*Wiley*, \$1.75, fall.  
YUMAN TRIBES OF THE GILA RIVER—Leslie  
Spier—*Univ. of Chicago*, \$4, Sept. 11.

## Zoology

ANATOMY OF THE RHESUS MONKEY—Hart-  
man and Straus—*Williams & Wilkins*, \$7,  
Nov. 1.  
BOOK ABOUT ANIMALS—Anon.—*Warne*, \$2,  
Sept. 1.  
FISHES: THEIR JOURNEYS AND MIGRATIONS—Louis Roule—*Norton*, \$3.75, Aug. 24.  
HANDBOOK OF FROGS AND TOADS—Anna A.  
Wright and Albert H. Wright—*Comstock*,  
\$3, Nov. 1.  
INTRODUCTION TO THE VERTEBRATES—L. A.  
Adams—*Wiley*, \$3.50, fall.  
LONDON ZOO—Gertrude Gleeson—*McBride*,  
2.50, summer.  
MAN AND THE VERTEBRATES—Alfred S.  
Romer—*Univ. of Chicago*, \$3, Oct. 24.  
THE MEANING OF ANIMAL COLOUR AND  
ADORNMENT—R. W. G. Hingston—*Longman's*, \$6, fall.  
THE WILD HORSES OF ICELAND—Svend  
Fleurbaey—*Holt*, \$2.50, fall.

## Miscellaneous

THE ALEXANDER BOOK IN ETHIOPIA—  
Translated by Sir Ernest A. W. Budge—  
*Oxford*, \$2.50, fall.  
CAN IT BE DONE?—Ray Gross—*Simon &  
Schuster*, \$1.25, Oct. 25.  
THE FUNDAMENTALS OF FIBRE STRUCTURE—  
W. T. Astbury—*Oxford*, \$3, Sept. 7.  
HOWS AND WHYS OF COOKING—rev. ed.,  
1933—Evelyn G. Halliday and Isabel T.  
Noble—*Univ. of Chicago*, \$3 (reg. ed.),  
\$2 (educational ed.), Oct. 17.  
THE INVENTOR AND HIS WORLD—H. Staf-  
ford Hatfield—*Dutton*, \$2.40, fall.  
THE JOY OF LIVING: AN AUTOBIOGRAPHY,  
2 Vol.—Franklin H. Martin—*Doubleday  
Doran*, \$7, fall.  
MODERN ILLUSTRATION METHODS—Charles  
W. Gamble—*Pitman*, \$3.75, Aug.  
NATURECRAFT CREATURES—J. W. Lippincott  
and G. J. Roberts—*Lippincott*, \$1.50,  
Sept. 14.  
101 THINGS FOR A BOY TO MAKE—2nd ed.  
—A. C. Horth—*Lippincott*, \$2, Sept. 14.  
ORGANIZATION OF KNOWLEDGE IN LIBRARIES—  
Henry E. Bliss—*Wilson*, \$4, Sept. 14.  
THE ORIENTAL CARAVAN—Sirdar Ikbal Ali  
Shah—*Kendall*, \$2.75, Oct. 30.  
TEXTILES AND THE MICROSCOPE—E. R.  
Schwarz—*McGraw-Hill*, \$\*.  
WHAT WOULD BE THE CHARACTER OF A  
NEW WAR?—Eighteen authors—*Smith  
and Haas*, \$2.50, fall.

The swastika, emblem of the Nazi party in Germany, was known in the Near East 3,000 years before Christ and is not a peculiarly Aryan or Christian emblem as the Nazis claim, says Dr. W. Norman Brown, Professor of Sanskrit at the University of Pennsylvania.

# First Glances At New Books

## From Page 263

value to the historian of science are the comments upon the personalities, past and present, involved in America's great chemical industries.

*Science News Letter, October 21, 1933*

### Economics

**A HANDBOOK OF NRA: LAWS, REGULATIONS, CODES—Federal Codes,** 413 p., \$4.50. Complete and unabridged with supplementary service to December 31, 1933.

*Science News Letter, October 21, 1933*

### Economics

**THE NATIONAL RECOVERY PROGRAM—James D. Magee, Willard E. Atkins and Emanuel Stein—Crofts,** 80 p., 50c. Clean-cut, objective discussion of the National Industrial Recovery Act, the farm program, and the new efforts in the fields of banking and finance, which should prove invaluable to students of economics, whether college undergraduates or at large in the world and "reading up for themselves."

*Science News Letter, October 21, 1933*

### Education

**A PRIMER OF THE NEW DEAL—E. E. Lewis—American Education Press,** 63 p., 25c.

*Science News Letter, October 21, 1933*

### Economics—Agriculture

**WORLD RESOURCES AND INDUSTRIES—Eric W. Zimmermann—Harper,** 842 p., \$5. The professor of economics at the University of North Carolina appraises the agricultural and industrial resources of the world. Replete with illustrations and tabulations, detailed consideration is given to the great agricultural crops and the great industrial natural resources. He also discusses the natural environment in relation to man and his wants, and he peers into the complex future of international relationships.

*Science News Letter, October 21, 1933*

### Education

**THE EFFECT OF CERTAIN FACTORS IN THE VERBAL ARITHMETIC PROBLEM UPON CHILDREN'S SUCCESS IN THE SOLUTION—Grace A. Kramer—Johns Hopkins Press,** 106 p., \$1.75. Number 20 of the Johns Hopkins University

Studies in Education. It contains a supplementary investigation into children's expressed interest in problems. They prefer the money problem that deals with the purchase of a bike, the time problem that describes a foot race, and measuring problems concerned with the making of such things as dog houses.

*Science News Letter, October 21, 1933*

### Education

**PARENTS, CHILDREN, AND MONEY—Sidonie M. Gruenberg and Benjamin C. Gruenberg—Viking,** 219 p., \$1.75. Helpful suggestions for handling that perplexing problem faced alike by those with much money and those with little.

*Science News Letter, October 21, 1933*

### Education—Psychology

**LEADERSHIP AMONG HIGH SCHOOL PUPILS—Marion Brown—Teachers College, Columbia Univ.,** 166 p., \$1.75. Based upon 259 case studies. Consideration is given to the characteristics of leaders in school and the ways by which they attain leadership. The implications for educators form the final chapter.

*Science News Letter, October 21, 1933*

### Education—Psychology

**PSYCHOLOGY AND THE NEW EDUCATION—S. L. Pressey—Harper,** 594 p., \$2.75. A practical book for the use of teachers and students of education. It aims, as the author says, to "inform the reader not about instincts and reflexes, but about children." And the discussion is not limited to the purely intellectual aspects; growth, adenoids, malnutrition, play, the home, and many other considerations of importance in the true education of children are given the consideration they deserve.

*Science News Letter, October 21, 1933*

### Endocrinology

**THE GROWTH AND GONAD-STIMULATING HORMONES OF THE ANTERIOR HYPOPHYSIS—Herbert M. Evans, Karl Meyer and Miriam E. Simpson in collaboration with Alexander J. Szarka, Richard I. Pencharz, Robert E. Cornish and Frederick L. Reichert—Univ. of Calif. Press,** 446 p., \$10. Here is a monumental work on a subject that is particularly to the fore these days, the hypophysis or pituitary gland. It is,

## AIRWAYS of AMERICA

GUIDE BOOK NO. 1

By A. K. LOBECK, Professor of Geology in Columbia University

A new type of travel guide, as interesting to people reading in the stillness of their homes as to those actually flying. It describes the country passed over in an air journey from New York to San Francisco by United Air Lines. Physiography, geology, agriculture, vegetation and climate are treated. Richly illustrated with photographs, route maps and diagrams. Delivered, \$2.50. Copies sent on approval or C.O.D. if requested.

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however, a scientific treatise, too technical for the layman, even though he be greatly interested in the new knowledge of this important gland that is responsible for such strange conditions as dwarfism and giantism.

*Science News Letter, October 21, 1933*

#### Physics—Engineering

**THE REDUCTION OF NOISE IN BUILDINGS: RECOMMENDATIONS TO ARCHITECTS**—Hope Bagenal and P. W. Barnett—*His Majesty's Stationery Office*, 29 p., 9d. This bulletin considers how noise and disturbance due to transmitted sound will be minimized in buildings. Of practical value is a compilation of types of construction with the sound reductions that they cause.

*Science News Letter, October 21, 1933*

#### Engineering—Economics

**THE POWER AGE**—Walter N. Polakoff—*Covici Friede*, 247 p., \$2. We have outgrown the technique of the machine age, the author argues. A new production technique, power production, characterizes the new power age. The power age does not have bigger and better machines than those of the machine age but it is characterized "by a different kind of machine, conditioning a different kind of production, which results in a different kind of economy and a different kind of social relations." This book is a highly pertinent contribution to the discussion of the relationship between science and man which has been intensified by present economic conditions.

*Science News Letter, October 21, 1933*

#### General Science

**OFFICIAL CATALOG OF EXHIBITS IN THE DIVISION OF THE BASIC SCIENCES**—*Century of Progress*, 144 p., 15c. As a written and pictorial record of the



*Cornelia Clarke Photo*

#### LOWLIEST LIFE RIDES THE AIR

Almost any log you step over, during an autumnal woodland ramble, can show, on some bit of its bark, a colony of tiny stalked globes. Through your hand lens they will look like tiny balloons about to take off on an elfin Gordon Bennett race. But they are only the spore-cases of one species of Mycetozoa, or slime-molds, called *Myxomycetes* by earlier biologists. They represent the fruiting stage of one of the lowest forms of life—a creature so humble that it can not with certainty be called either animal or plant. The little globes do not float off through the air, but the millions of dust-like spores within them do, and the very few of them that fall on a favorable substrate renew the life cycle next year.

scientific sights that millions saw in the Hall of Science at the Century of Progress, this catalog performs a useful service.

*Science News Letter, October 21, 1933*

#### General Science

**THE LIMITATIONS OF SCIENCE**—J. W. N. Sullivan—*Viking Press*, 307 p., \$2.75. A readable discussion of the fundamentals of science as they have been modified by increasing knowledge, presented with historical prospective, philosophical feeling and an eye cocked toward the future. For those who enjoy Eddington, Jeans, Whitehead, Russell, et al.

*Science News Letter, October 21, 1933*

#### Geography

**NORTHERN LIGHTS**—F. Spencer Chapman—*Oxford Univ. Press*, 304 p., \$5. This official account of the British Arctic air-route expedition is a creditable addition to the epics of explorations in the Polar regions. It will be remembered that the leader of this expedition was Henry George Watkins who, on a second and supplementary expedition, had his career cut short tragically at the age of twenty-five.

*Science News Letter, October 21, 1933*

#### Geography—Exploration

**THE EMPTY QUARTER**—H. St. J. B. Philby—*Holt*, 432 p., 32 illus., \$4. A ninety-day journey through the famous Empty Quarter of Arabia, a land so little known that in 1930 His Majesty King 'Ali spoke of it as an innermost recess of his empire that he desired to see explored. Mr. Philby works hard at his job, and so along with the running narrative of adventure there is explanation of what this Empty Quarter contains. Ancient ruins, apparently, it does not contain. The legendary wicked city of Wabar destroyed by fire from heaven proves to be a volcano. Nomads have been almost the only inhabitants of the dry region. But the singing sands, meteorites, freshwater shells, animal and plant life, show that the Empty Quarter is far from being barren of scientific interest.

*Science News Letter, October 21, 1933*

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## Histology

**THE HISTORY OF STAINING**—H. J. Conn—*Book Service of the Biological Stain Commission*, Geneva, N. Y., 141 p., \$2. The history of biology from the middle of the nineteenth century until very recent years might almost be said to be a history of biological staining, for during that period occurred the great forward leaps of those phases of our knowledge of plant and animal structure that depend on making invisible things visible by giving them color. Present-day laboratory technique inherits the riches accumulated for it during this period, but often knows little of the men to whom it is indebted. This small book remedies that lack, and by adding to the *what* and *how*, which we already know, the background of the historical *why*, it helps to lay the foundation of still further progress.

*Science News Letter*, October 21, 1933

## History—Folklore

**THE ALEXANDER BOOK IN ETHIOPIA**—Translated by Sir Ernest A. Wallis Budge—*Oxford Univ. Press*, 277 p., 13 pl., \$2.50. The Ethiopian version of the life of Alexander the Great is given in a series of manuscripts in the British Museum and the National Library in Paris. Some years ago the author of this book translated these texts for limited scholarly use, but now he has prepared a compact edition for more general reading by the public. The translation preserves the Oriental literary flavor of the texts, which are said to have come from the Arabic. The pictures are from the Persian version of Alexander's life, which is illustrated as other Eastern versions are not.

*Science News Letter*, October 21, 1933

## History—Sociology

**THE DAWN OF CONSCIENCE**—James H. Breasted—*Scribner's*, 431 p., 19 illus., \$3. The discovery of human character as something precious and fine is traced to the Egyptians, presumably no earlier than the twenty-seventh century B.C. So, Dr. Breasted tells us, the foundations of real civilization are still so new "that we need feel no discouragement if the building has not yet exhibited the stability we may yet hope to see it achieve." Written as only Dr. Breasted can write of Egypt, this book tells of the pioneer efforts of the Egyptians to establish a moral order, of their ideas of social justice, and social idealism, following which he traces the sources of our moral heritage.

*Science News Letter*, October 21, 1933

## Invention

**CAN IT BE DONE?**—Ray Gross—*Simon and Schuster*, 136 p., \$1.25. A series of newspaper illustrations suggesting inventions that might be made, reprinted in book form.

*Science News Letter*, October 21, 1933

## Language—Psychology

**THE ILLITERACY OF THE LITERATE**—H. R. Huse—*Appleton-Century*, 273 p., \$2. This witty discourse on words, their uses and their misuse in "verbo-mania" will interest all who wish to read with understanding as well as those to whom language is a tool. The education which leaves a suggestible public at the mercy of the hypnotic "hokum" of advertisers and propagandists is condemned.

*Science News Letter*, October 21, 1933

## Mathematics

**THE ELEMENTS OF EUCLID**—Edited by Isaac Todhunter—*Dutton*, 298 p., 70c. In inexpensive edition there is made accessible the Todhunter edition of Euclid's Elements, supplemented by an introduction prepared for this edition by Sir Thomas L. Heath. The publishers feel that this volume may easily be found as fascinating and as difficult to put down when once begun as any detective story.

*Science News Letter*, October 21, 1933

## Medical History

**BEHIND THE DOCTOR**—Logan Clendening—*Knopf*, 469 p., \$3.75. Dr. Clendening has made an intensely colorful narrative of the history of medicine. Conservatives may criticize the free use of imagination, but the result is a most readable book. A bibliography indicates what is fanciful in each chapter and gives the sources to which the reader may turn for verification of the author's deductions or for more factual presentation of the subject. The book is fully and excellently illustrated.

*Science News Letter*, October 21, 1933

## Medicine—Physics

**THE SCIENCE OF RADIOLOGY**—Edited by Otto Glasser—*Charles C. Thomas*, 450 p., \$4.50. Twenty-six authorities, marshalled under the editorship of Dr. Otto Glasser of the Cleveland Clinic Foundation and sponsored by the Radiological Society of North America, discuss exhaustively practically every phase of X-rays, radium rays, and other radiation. While much of the book is directed toward the therapeutic aspects of radiology, there are chapters by such

*The Fascinating  
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## LIFE IN THE MAKING

For September

SCIENTIFIC BOOK CLUB SELECTIONS

For October

## LIMITATIONS OF SCIENCE

At the ends of telescopes—beneath microscopes—twin universes exist. Into these antipodal but strangely similar worlds the scientist ventures. J. W. N. Sullivan tells what those venturings have won for science—what may be accomplished in the future—what may never be learned. \$2.75.

VIKING PRESS, NEW YORK

## • First Glances at New Books

From Page 271

authorities as Herman J. Muller, George L. Clark, Matthew Luckiesh, Arthur L. Compton, William Seifriz on more purely physical aspects.

*Science News Letter, October 21, 1933*

### Military Science

WHAT WOULD BE THE CHARACTER OF A NEW WAR?—Eighteen authors—*Smith and Haas*, 420 p., \$2.50. The English edition of this book was greeted by the *New Statesman and Nation* as "the most terrible book which has ever been written." In a way it merits the distinction. For the unemotional objectivity with which the group of distinguished authors, some of whom a few years ago were trying to kill each other, discuss shellfire and gas, bankruptcy and starvation and pestilence, leaves one more dazed with horror than any amount of impassioned pleading. Some of the men are professional soldiers; all of them have a first-hand knowledge of war and have made special studies of it and of its effects. They do not dogmatize, and where they do not know they say so; but the things they do know and state with calm confidence make the few ounces of this book weightier than tons of ordinary pacifist tracts.

*Science News Letter, October 21, 1933*

### Nursing

PUBLIC HEALTH NURSING IN INDUSTRY—Violet H. Hodgson—*Macmillan*, 249 p., \$1.75. Prepared for the National Organization for Public Health Nursing. The need for industrial nursing is forcibly pointed out and the duties of industrial nurses are fully explained in this book. Prof. C.-E. A. Winslow of Yale University in the foreword describes it as a "compact and admirable manual."

*Science News Letter, October 21, 1933*

### Physics—Mechanical Engineering

CONTOUR MEASURING PROJECTOR—*Bausch & Lomb Optical Co.*, 37 p., free. A catalog and explanation of an optical instrument used for the precise measurement and inspection of small machine parts.

*Science News Letter, October 21, 1933*

### Psychiatry

NERVOUS BREAKDOWN—W. Béran Wolfe—*Farrar and Rinehart*, 240 p., \$2.50. The author states his purpose as three-fold: to guide the general practitioner in his treatment; to help the patient's family and friends to under-

stand the patient's conduct; but primarily, to help the patient to help himself. The patient's first duty—to consult a competent and reputable physician—is not overlooked.

*Science News Letter, October 21, 1933*

### Psychology

A HANDBOOK OF CHILD PSYCHOLOGY—Edited by Carl Murchison—*Clark Univ. Press*, 956 p., \$5. This volume, which is in convenient form despite its almost encyclopedic compass, is more than a mere revision of the first edition. This is due, the preface states, to the great expansion of the field during the last three years and partly to the improved insight of the editor.

*Science News Letter, October 21, 1933*

### Psychology—Philosophy

MODERN MAN IN SEARCH OF A SOUL—C. G. Jung—*Harcourt, Brace*, 282 p., \$3. An excellent translation by Cary F. Baynes of a collection of essays. The work, which is not too technical to be of interest to the layman, throws light upon Jung's theories and his differences with Freud and Adler which developed, he says, from the needs of his patients who were beyond the age of forty. The young person's psychic difficulties arise for the most part from a need to fit in with the group and become socially useful. The older person, who has already succeeded in becoming a useful member of the community or perhaps a leader, faces a new problem—that of finding meaning in his own individual life.

*Science News Letter, October 21, 1933*

### Psychology—Physiology

MORE POWER TO YOU!—Walter B. Pitkin—*Simon and Schuster*, 298 p., \$1.75. With the sub-title "A Working Technique for Making the Most of Human Energy," Prof. Pitkin has gathered information about human energy and personal working conditions and habits. Processed by Pitkin, and seasoned by his interesting opinions, the thesis is advanced that maladjustments are mainly defects in energizing and that energy is the key to achievement.

*Science News Letter, October 21, 1933*

### Radio

PIERRE KEY'S RADIO ANNUAL—*Pierre Key*, 479 p., \$7.50. Comprehensive in scope is this annual, listing the radio stations of the world, the talent that entertains, the advertisers that use the networks, the sustaining programs of the networks and other material of a similar nature.

*Science News Letter, October 21, 1933*

### Radio

WIRELESS—W. H. Eccles—*Thorn-ton Butterworth, Ltd.*, 256 p., 2s 6d. The author is the eminent British authority and this volume of the Home University Library provides a satisfactory brief summary of radio theory and practice.

*Science News Letter, October 21, 1933*

### Sociology

RURAL CRIME CONTROL—Bruce Smith—*Institute of Public Administration, Columbia Univ.*, 306 p., \$2. The problems of today viewed against the background of the history of rural law enforcement. Based upon direct observations and studies made by the writer on rural justice administration both in this country and abroad.

*Science News Letter, October 21, 1933*

### Zoology

THE BOOK ABOUT ANIMALS—*Warne*, 100 p., 12 pl., \$2. With its twelve plates in color and 133 large text illustrations, this is primarily a picture book; nevertheless the running fire of text comment is full of well chosen and well presented fact. A good book to give a youngster of junior high school age, if he is interested in animals.

*Science News Letter, October 21, 1933*

### Zoology

THE WILD HORSES OF ICELAND—Svend Fleuron—*Holt*, 236 p., \$2.50. The author of this story has achieved an international reputation as a writer of animal stories. Here he tells of the Icelandic farmer and the important part the horse plays in his struggle for existence. The plot serves only as a background for the telling of the everyday life of the animals, as well as of the more stirring times when their strength and devotion are brought to the forefront. The illustrations are done in Cecil Aldin's own inimitable fashion.

*Science News Letter, October 21, 1933*

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